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three times a week. Three fission zones have been observed in one individual at the same time. As the animal grows in length, the case which it inhabits is extended, and after fission the two daughter-worms divide it by placing their heads together at its middle and forcibly breaking it; each worm then swims away with one-half of the old case. The fission zone is formed near the middle of some segment, usually back of XVII and in front of XXII. The new head and tail are almost completely formed before separation takes place. The number of somites in the new head is constant, being five, while twelve to sixteen segments are visible in the tail before a second fission begins. Worms divided by cutting regenerate the missing part, though only enough segments are regenerated at the anterior end to complete the cephalized portion, *i.e.*, the first five. Thus if two are removed but two regenerate, while if seven are taken away only five new segments are formed. At least three or four segments in addition to the five in the cephalic region are necessary for the regeneration of the tail. Dr. Brode gives a detailed account of the structure of the body wall, of the nervous system, and of the sense organs. Each segment is provided with four lateral nerves which arise from the ventral ganglion and pass to the body wall and thence dorsally. The epidermis is provided with a remarkable series of sense organs, each segment bearing two series arranged in greater and lesser circular bands of twelve and eight organs respectively. These organs are so spaced as to form twenty longitudinal rows extending the whole length of the body. Dr. Brode also confirms Hesse's view that the so-called lateral line of oligochetes is formed by the accumulation of the nucleated plasma portions of the circular muscle fibres and cannot, therefore, be interpreted as a nervous structure. The epidermal sense organs have no share in the formation of this line. The marked serial symmetry of the epidermal sense organs and lateral nerves is held by the author to support the colonial theory of the origin of metamerism.

C. A. K.

Crustacea of Florida and the Bahamas. — Miss Mary J. Rathbun is an indefatigable student of Crustacea. In fact, the mantles of Stimpson, Smith, Kingsley, Say, Gill, Gibbes, and all other past students of the group appear to have fallen on her shoulders. In the paper before us she describes the 127 species of brachyma, collected by the Iowa University Expedition of 1893.[1] Several new species are described, and there are notes on others not so well known. As in all of Miss Rathbun's work, the recognition of salient characters is acute, and their expression is put in concise form. One or two features which persistently reappear in her writings seem to call for criticism. Apparently the attempt is made to arrange the species on a descending scale, for the series begins with the Maioids and ends with the Calappoids, but certainly the Ocypodoids are the highest of the Decapods. The other feature of which we would complain is the foundation of new genera (*e.g.*, Eupanopens) upon characters of far less than generic value. Certainly the characters given in the following diagnosis are not of generic value. Carapace of moderate width, anteriorly subquadrate, crossed by broken transverse lines ; frontal lobes sinuous ; five distinct lateral teeth, the third, fourth, and fifth prominent, the second usually so. One feature of the collection is interesting — the absence of any specimens of Gelasimus.

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[1] *Bulletin of the Laboratories of Natural History of Iowa University*, June, 1898.

Entomostraca of Karelia. — An extended faunistic study of the Entomostraca of Karelia in the region tributary to the White Sea has been made by Dr. K. E. Stenroos.[1] Especial attention was given to the Cladocera, of which 64 forms — an exceptionally large number — were found. Species are grouped as littoral or limnetic, though a few are members of both faunas and exhibit marked differences according to their environment. When found alongshore or in weedy shallows of the lakes they are opaque and brownish, while in open water they have the hyaline appearance characteristic of the typical limnetic fauna. Great variation was observed within the genus Bosmina, almost every body of water showing its own peculiar type. Wherever adjacent lakes presented similar physical characteristics the Bosminidæ found therein were much alike, but the more diverse the environment, the greater the unlikeness of the Bosmina fauna. Intermediate forms were found which seem to render necessary a considerable reduction in the number of species hitherto recognized in this genus. *Chydorus rugulosus* Forbes, originally described from Lake Superior, is reported from Finnish waters.

C. A. K.

Notes. — The interesting amphibian, *Amphiuma means*, is reported by H. M. Smith in the *Proc. of the Nat. Museum*, Vol. XXI, as occurring in the vicinity of Hampton, Virginia, where it was found in some

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[1] Stenroos, K. E. Zur Kenntniss der Crustaceen-Fauna von Russisch-Karelien, *Acta Soc. pro Fauna et Flora Fenn.*, Bd. xv.